







Third Grade Standards Progression 2012-13

Grade 3	Weeks 1-6	Weeks 7-12	Weeks 12-18	Weeks 19-24	Weeks 25-30	Weeks 31-36
<b>Represent and solve problems involving multiplication and division.</b>						
<b>3.OA.1</b> -Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math>.</i> 		<ul style="list-style-type: none"> <li>I can interpret a product as a total number of objects in multiple groups.</li> </ul>				
<b>3.OA.2</b> - Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe a context in which a number of shares or a number of groups can be expressed as <math>56 \div 8</math>.</i> 			<ul style="list-style-type: none"> <li>I can interpret a quotient as the number of shares or the number of groups when a set of objects is divided equally.</li> </ul>			
<b>3.OA.3</b> - Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 		<ul style="list-style-type: none"> <li>I can solve multiplication and division word problems within 100 involving equal groups, arrays, and measurement quantities.</li> <li>I can represent multiplication and division word problems using drawings</li> </ul>	<ul style="list-style-type: none"> <li>I can solve multiplication and division word problems within 100 involving equal groups, arrays, and measurement quantities.</li> <li>I can represent multiplication and division word problems using drawings</li> </ul>			


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		and equations with a symbol for the unknown number to represent the problem.	and equations with a symbol for the unknown number to represent the problem.			
<b>3.OA.4-</b> Determine the unknown whole number in a multiplication or division equation relating three whole numbers. 			<ul style="list-style-type: none"> <li>I can find the unknown number in any position in a multiplication or division equation.</li> </ul>			
<b>Understand properties of multiplication and the relationship between multiplication and division.</b>						
<b>3.OA.5-</b> Apply properties of operations as strategies to multiply and divide. <i>Examples: If <math>6 \times 4 = 24</math> is known, then <math>4 \times 6 = 24</math> is also known. (Commutative property of multiplication.) <math>3 \times 5 \times 2</math> can be found by <math>3 \times 5 = 15</math>, then <math>15 \times 2 = 30</math>, or by <math>5 \times 2 = 10</math>, then <math>3 \times 10 = 30</math>. (Associative property of multiplication.) Knowing that <math>8 \times 5 = 40</math> and <math>8 \times 2 = 16</math>, one can find <math>8 \times 7</math> as <math>8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56</math>. (Distributive property.)</i> 			<ul style="list-style-type: none"> <li>I can use the properties of operations as strategies to multiply and divide.</li> </ul>			
<b>3.OA.6-</b> Understand division as an unknown-factor problem. <i>For example, find <math>32 \div 8</math> by finding the number that makes 32 when multiplied by 8.</i> 			<ul style="list-style-type: none"> <li>I can explain how a division problem can be written as a multiplication equation with</li> </ul>			

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			an unknown factor.			
<b>Multiply and divide within 100.</b>						
<b>3.OA.7-</b> Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$ , one knows $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.			<ul style="list-style-type: none"> <li>I can fluently multiply, demonstrate from memory products of two one-digit numbers, and divide within 100.</li> </ul>	<ul style="list-style-type: none"> <li>I can fluently multiply, demonstrate from memory products of two one-digit numbers, and divide within 100.</li> </ul>	<ul style="list-style-type: none"> <li>I can fluently multiply, demonstrate from memory products of two one-digit numbers, and divide within 100.</li> </ul>	<ul style="list-style-type: none"> <li>I can recall (from memory) ALL products of two one-digit numbers.</li> </ul>
<b>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</b>						
<b>3.OA.8-</b> Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	<ul style="list-style-type: none"> <li>I can solve two-step word problems using addition and subtraction.</li> <li>I can use equations with a letter representing the unknown quantity.</li> <li>I can check my answers to word problems using mental math and estimation to see if it is reasonable.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve two-step word problems using addition and subtraction.</li> <li>I can use equations with a letter representing the unknown quantity.</li> <li>I can check my answers to word problems using mental math and estimation to see if it is reasonable.</li> </ul>	<ul style="list-style-type: none"> <li>I can solve two-step word problems using multiplication and division.</li> </ul>			
<b>3.OA.9-</b> Identify arithmetic patterns			<ul style="list-style-type: none"> <li>I can identify</li> </ul>			

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(including patterns in the addition table or multiplication table), and explain them using properties of operations. 			number patterns for addition and multiplication. • I can explain rules for a pattern using properties of operations.			
<b>Use place value understanding and properties of operations to perform multi-digit arithmetic.</b>						
<b>3.NBT.1-</b> Use place value understanding to round whole numbers to the nearest 10 or 100.	• I can use what I know about place value to round a whole number to the nearest 10 or 100.					
<b>3.NBT.2-</b> Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	• I can fluently add and subtract within 1000 using my strategies.	• I can fluently add and subtract within 1000 using my strategies and algorithms.				
<b>3.NBT.3-</b> Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., $9 \times 80$ , $5 \times 60$ ) using strategies based on place value and properties of operations.			• I can multiply one-digit whole numbers by multiples of 10 using strategies based on place value and properties of operations.			

Develop understanding of fractions as numbers.						
<p><b>3.NF.1-</b> Understand a fraction <math>\frac{1}{b}</math> as the quantity formed by 1 part when a whole is partitioned into <math>b</math> equal parts; understand a fraction <math>\frac{a}{b}</math> as the quantity formed by <math>a</math> parts of size <math>\frac{1}{b}</math>.</p> 				<ul style="list-style-type: none"> <li>• I can recognize that a unit fraction is formed when a whole is divided into equal parts.</li> <li>• I can express a fraction as the total number of unit fractions.</li> </ul>		
<p><b>3.NF.2-</b> Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p> <p>a. Represent a fraction <math>\frac{1}{b}</math> on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into <math>b</math> equal parts. Recognize that each part has size <math>\frac{1}{b}</math> and that the endpoint of the part based at 0 locates the number <math>\frac{1}{b}</math> on the number line.</p> 				<ul style="list-style-type: none"> <li>• I can represent each equal part on a number line with a fraction.</li> <li>• I can explain that the endpoint tells the size of the fraction starting from 0.</li> </ul>		
<p><b>3.NF.3-</b> Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.</p> <p>b. Recognize and generate simple</p>				<ul style="list-style-type: none"> <li>• I can recognize that two fractions are equivalent if they are the same size or are located at the same point on a number line.</li> </ul>		

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<p>equivalent fractions, e.g., <math>\frac{1}{2} = \frac{2}{4}</math>, <math>\frac{4}{6} = \frac{2}{3}</math>. Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form <math>3 = \frac{3}{1}</math>; recognize that <math>\frac{6}{1} = 6</math>; locate <math>\frac{4}{4}</math> and 1 at the same point of a number line diagram.</i></p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions, e.g., by using a visual fraction model.</p> 				<ul style="list-style-type: none"> <li>• I can recognize and write simple equivalent fractions.</li> <li>• I can explain why two fractions are equivalent.</li> <li>• I can rename a whole number as a fraction.</li> <li>• I can identify a fraction that is equivalent to a whole number.</li> <li>• I can recognize whether two fractions refer to the same whole in order to compare their sizes.</li> <li>• I can compare two fractions with the same numerator or the same denominator by reasoning about their size.</li> <li>• I can use <math>&gt;</math>, <math>=</math>, or <math>&lt;</math> symbols to record my comparison of two fractions and justify my conclusions.</li> </ul>		
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Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.						
<b>3.MD.1</b> -Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. 	<ul style="list-style-type: none"> <li>• I can tell and write time to the nearest minute.</li> <li>• I can measure time intervals in minutes.</li> </ul>	<ul style="list-style-type: none"> <li>• I can solve word problems involving addition of time intervals in minutes by representing the problem on a number line.</li> </ul>				
<b>3.MD.2</b> -Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. 						<ul style="list-style-type: none"> <li>• I can measure and estimate liquid volume using liters.</li> <li>• I can measure and estimate masses of objects using grams and kilograms.</li> <li>• I can add, subtract, multiply or divide to solve word problems involving masses or liquids and use a drawing to represent the problem.</li> </ul>
Represent and interpret data.						
<b>3.MD.3</b> -Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs	<ul style="list-style-type: none"> <li>• I can draw a bar graph to represent data using a scale.</li> <li>• I can draw a picture graph to represent data using a</li> </ul>					

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	scale. • I can analyze a bar graph to solve one and two-step problems asking "how many more/less?"					
<b>3.MD.4-</b> Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.					<ul style="list-style-type: none"> <li>• I can collect data by using a ruler to measure length to the nearest fourth, half, and whole inch.</li> <li>• I can create a line plot marked with the appropriate units to show my measurement data.</li> </ul>	
<b>Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</b>						
<b>3.MD.5-</b> Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by $n$ unit squares is said to have an area of $n$ square units.					<ul style="list-style-type: none"> <li>• I can define a "unit square".</li> <li>• I can cover the area of a plane figure with <math>n</math> unit squares without any gaps or overlaps and identify the area as <math>n</math> square units.</li> </ul>	
<b>3.MD.6-</b> Measure areas by counting unit squares (square cm, square m,					• I can measure area by counting	



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square in, square ft, and improvised units). 					square units (cm, m, in, ft, and others).	
<b>3.MD.7-</b> Relate area to the operations of multiplication and addition. e. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. f. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. g. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths $a$ and $b + c$ is the sum of $a \times b$ and $a \times c$ . Use area models to represent the distributive property in mathematical reasoning. h. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. 					<ul style="list-style-type: none"> <li>• I can find the area of a rectangle by tiling it.</li> <li>• I can compare the area of a rectangle found by tiling it to its area when multiplying the side lengths.</li> <li>• I can solve word problems to find the area of a rectangle by multiplying side lengths.</li> <li>• I can draw a rectangular area model to represent a product.</li> <li>• I can use tiling and an area model to represent the distributive property of multiplication.</li> <li>• I can break apart a figure into non-overlapping rectangles.</li> <li>• I can add areas of rectangles together to find the total area of a</li> </ul>	

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					<p>figure.</p> <ul style="list-style-type: none"> <li>• I can solve real world problems by finding the total area of a figure.</li> </ul>	
<b>Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</b>						
<p><b>3MD.8-</b> Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.</p>					<ul style="list-style-type: none"> <li>• I can solve problems that involve finding the perimeter of a polygon given an unknown side or given the side lengths.</li> <li>• I can create or draw rectangles with the same perimeter but different areas.</li> <li>• I can create or draw rectangles with the same area but different perimeters.</li> </ul>	
<b>Reason with shapes and their attributes.</b>						
<p><b>3.G.1-</b> Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples</p>	<ul style="list-style-type: none"> <li>• I can identify shared attributes of shapes that are in different categories.</li> <li>• I can group shapes with shared</li> </ul>					

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of quadrilaterals that do not belong to any of these subcategories.	<p>attributes to define a larger category.</p> <ul style="list-style-type: none"> <li>• I can identify rhombuses, rectangles, and squares as quadrilaterals and draw examples of quadrilaterals that do not fit these categories.</li> </ul>					
<b>3.G.2-</b> Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.				<ul style="list-style-type: none"> <li>• I can partition a shape into parts with equal areas.</li> <li>• I can label the area of each equal part using a unit fraction of the whole.</li> </ul>		